PATENT COOPERATION TREATY

MADDERNS

27 AUG 2004

From the:
INTERNATIONAL SEARCHING AUTHORITY

To:

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64 Hindmarsh Square
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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

	Date of mailing *(day/month/year)* 24 AUG 2004
Applicant's or agent's file reference 21000PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/AU2004/000865	30 June 2004	30 June 2003

International Patent Classification (IPC) or both national classification and IPC
Int. Cl.[7] C12Q 1/68, C12M 1/34, G01N 33/48

Applicant
RAUSTECH PTY LTD et al

1. This opinion contains indications relating to the following items:

[X]	Box No. I	Basis of the opinion
[ ]	Box No. II	Priority
[ ]	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
[ ]	Box No. IV	Lack of unity of invention
[X]	Box No. V	Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
[ ]	Box No. VI	Certain documents cited
[ ]	Box No. VII	Certain defects in the international application
[ ]	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the IPEA/AU	Authorized Officer
AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	**BAYER MITROVIC** Telephone No. (02) 6283 2164

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
10/562371
PCT/AU2004/000865

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material

      ☐ a sequence listing

      ☐ table(s) related to the sequence listing

   b. format of material

      ☐ in written format

      ☐ in computer readable form

   c. time of filing/furnishing

      ☐ contained in the international application as filed.

      ☐ filed together with the international application in computer readable form.

      ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2004/000865

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	**YES**
	Claims **1-13**	**NO**
Inventive step (IS)	Claims	**YES**
	Claims **1-13**	**NO**
Industrial applicability (IA)	Claims **1-13**	**YES**
	Claims	**NO**

2. Citations and explanations:

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1: US 2002/0136978
D2: WO 2000/25936
D3: WO 2001/15800
D4: WO 2003/031067

Document D1 discloses a method of in-situ synthesis of array of biopolymers on the patterned substrate to produce a diverse and addressable set of chemical compounds. Method is based on the electrostatic deposition of particles which are partially composed of nucleotides, amino acids, oligomers or similar compounds, which are charged by triboelectrification and which may carry charge controlling agents. These particles are similar to toner particles used in electrophotography. Particles are deposited onto a selectively charged substrate, which can include discrete areas with different charge. Substrate can be a photoreceptor whose charge is changed by photo illumination to generate patterned regions with predefined electrostatic charges. Photoreceptors are commonly made of photoconductive materials. The substrate can be a planar solid substrate which can be made of insulators such as borosilicate glass, plastic, resins. Metals and metal oxides may also be used as coatings. Reactive chemical functionalities as well as linker groups can be attached to it. Toner particles may be in the form of aerosol or may be present in the dielectric liquid medium.

Each of the remaining documents D2-D4 disclose a method of electrostatic deposition of charged particles onto a substrate which consists of patterned metal and dielectric layers to synthesize an array of oligomers or other compounds. A spatially resolved, addressable charge is formed onto the substrate in a predetermined manner. Chemical functionalities may also be present on the surface of the substrate. However, none of these documents discloses the use of photoconductive layer.

CLAIMS 1-13 – NOVELTY AND INVENTIVE STEP

In light of the above considerations it is considered that the invention defined in claims 1, 11, 12 and 13 lacks novelty and inventive step when compared with the document D1, because it discloses all the essential features of the invention claimed.

Furthermore, appended claims 2-10 relate to parameters or structures that are merely matters of design choice when the general technical knowledge about the state of the art is used and hence they cannot contribute to patentable invention.

Claims 1-7 and 10 are also not novel and lack an inventive step comparing to documents D2-D4.

CLAIMS 1-13 – INDUSTRIAL APPLICABILITY

The invention defined in claims 1-13 is industrially applicable.